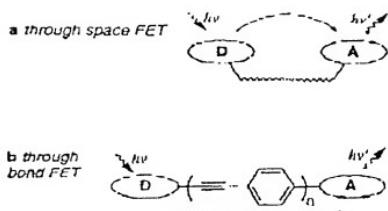


Figure 1. a Through space FET from a donor dye D to an acceptor dye A;
b through bond FET.



FIGURES 1A & 1B

0958005532 = 09811453

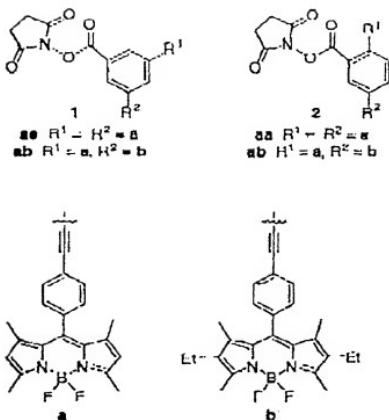
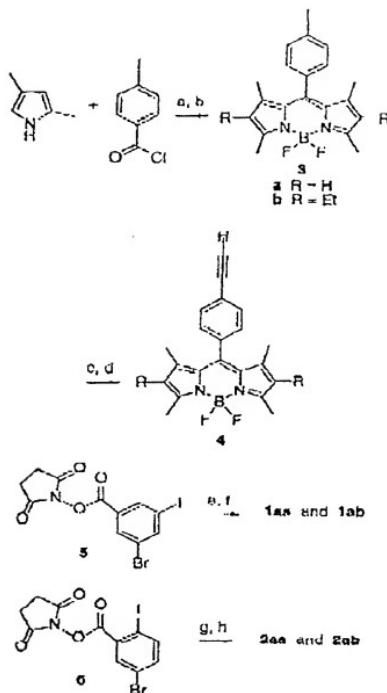


FIGURE 2



Scheme 1. Syntheses of the cassettes **1** and **2**. a) CH_2Cl_2 reflux; b) $\text{BF}_3 \cdot \text{OEt}_2$, NEt_3 , MePh, 80 °C, 26% (2 steps) for **3a** and 39% (2 steps) for **3b**; c) HCClMS , NEt_3 , cat. $\text{Pd}(\text{PPh}_3)_4$, cat. CuI , MePh 60 °C, 99% for **a** and 96% for **b**; d) TBAF , THF, 0 °C, 60% for **a** and 58% for **b**; e) **4a**, NEt_3 , cat. $\text{Pd}(\text{PPh}_3)_4$, cat. CuI , MePh 50 °C, 96%; f) **4a** or **4b**, NEt_3 , cat. $\text{Pd}(\text{PPh}_3)_4$, cat. CuI , MePh 80 °C, 65% for **1aa** and 23% for **1ab**; g) **4a**, NEt_3 , cat. $\text{Pd}(\text{PPh}_3)_4$, cat. CuI , MePh 45 °C, 83%; f) **4a** or **4b**, NEt_3 , cat. $\text{Pd}(\text{PPh}_3)_4$, cat. CuI , MePh 80 °C, 65% for **1aa** and 17% for **1ab**.

Table 1. Important spectroscopic data for compounds **4**, and the cassettes **1** and **2**.

	$\lambda_{\text{max}} (\text{abs})^{\text{a}}$ (nm)	$\lambda_{\text{max}} (\text{emis})^{\text{a}}$ (nm)	energy transfer (ET) efficiency ^{b,c} (%)	ratios of fluorescence intensities ^c
4a	504	515	-	-
4b	529	543	-	-
1aa	504	515	-	1aa:4a 1.5:1.0
1ab	505 and 529	542	>90	1ab:4b 2.2:1.0
2aa	504	516	-	2aa:4a 1.6:1.0
2ab	505 and 529	543	>90	2ab:4b 1.7:1.0

[a] in CHCl_3 . [b] where ET = {1 - (fluorescence intensity of donor emission in cassette)/(fluorescence intensity of donor alone)} \times 100 % [c] excitation at 488 nm.

FIGURE 4